



WAQUOIT BAY



NATIONAL ESTUARINE RESEARCH RESERVE

The Reserve includes about 2,500 acres on the south shore of Cape Cod, Massachusetts. Designated in 1988, it is jointly managed by the Massachusetts Department of Environmental Management and NOAA. The Reserve's headquarters on the 25-acre former Swift Estate overlooks the head of the Bay. Three of the buildings have been renovated with NOAA development funds to provide laboratory, classroom, library, dormitory, office, maintenance and storage space. State funds have been released to finish renovation of the mansion which will house exhibits, offices and conference space.

Waquoit Bay Goals:

- Promote Resource Protection Within and Around the Reserve.
- Sponsor Applied Research on the Natural and Human Processes within the Estuary.
- Translate Research Results to Policy-Makers and the Public to Encourage Informed Decisions on Coastal Management Issues.
- Serve as a Model to Other Coastal Communities.

Research and Resource Protection:

Last year over 50 researchers engaged in projects at the Reserve. The Research Coordinator, funded by NOAA, facilitates the activities of outside researchers and directs staff investigations and volunteer monitoring projects. Much of the research explores watershed/groundwater dynamics, with particular attention to non-point sources of pollution, a current priority of the National Estuarine Research Reserve System.

- The Land Margin Ecosystem Research Project, "Coupling of Watershed and Coastal Waters in Waquoit Bay."

This multidisciplinary research effort funded by NOAA, EPA and NSF for \$2 million over 4 years is assessing the impacts of changing land use patterns on groundwater and coastal waters.

- National On-site Advanced Wastewater Treatment Systems Demonstration Project.

The Waquoit Bay Watershed has been designated as a site to explore on-site technology as a means of reducing nitrogen-loading to coastal waters.

- Groundwater Dynamics in the Watershed

The EPA funded this study by the Cape Cod Commission to examine groundwater dynamics in the Waquoit Bay Watershed.

- Physical Impacts of Piers & Associated Vessel Use on Fishery Productivity in Waquoit Bay

This NOAA funded Massachusetts Coastal Zone Management project will provide important information to local planners and conservation commissions.

- Research Coordinator's Program

A suite of in-house resource protection projects including: investigations of the early life history of fishes, near-shore coastal dynamics, use and abuse of marine sanitation devices in Waquoit Bay, and supervision of the Site Profile and of citizens' monitoring programs.

- Citizens' Monitoring Projects

Volunteers are engaged in many projects including water quality monitoring; protecting endangered birds (e.g., the Piping Plover) and endangered plant species (Waquoit Bay is one of seven sites worldwide where the Sandplain Gerardia is found).

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Outreach/Communication/Policy/Education

Waquoit Bay promotes estuarine awareness via papers, lectures, newsletters, conferences, and curricula as well as through interpretive walks, and hands-on activities and demonstrations. A NOAA and EPA funded Research Translator Position supports these projects.

- **The Waquoit Bay Science and Policy Bulletin Series and Tidal Exchange Newsletter**

These publications translate research results to policy-makers and the concerned public.

- **Conference: "Nitrogen Removal On-site Wastewater Treatment Systems: Technologies and Regulatory Strategies."**

This conference was the result of research showing that nutrients from septic systems are one of the largest coastal pollutants. A position paper from the conference has been widely distributed to coastal managers.

- **Computer Model of Nitrogen-Loading Rates**

Being developed by researchers and staff, this model may be used by town planners to calculate effects of proposed developments on groundwater quality.

- **"Coastal Watersheds At Bay: a Curriculum"**

Written by Reserve staff and committee members, the curriculum encourages watershed awareness using critical thinking techniques and hands-on activities. Waquoit Bay provides teacher-training on using the curriculum.

- **Evenings on the Bluff**

Waquoit Bay Reserve invites the public to picnic on the lawn while listening to entertaining presentations that explain concepts related to the Reserve's research and policy work.

- **Interpretive Walks and Boat Trips**

These activities engage the public while providing a forum for transferring research results to the group.

- **The Waquoit Bay Internship Program**

The Reserve offers training and experience in research, planning, interpretation and resource management.

- **Futures in Science Kids and the Woods Hole Science and Technology Partnership**

Waquoit Bay provides research opportunities to local students by participating in local school and community programs.

- **Waquoit Bay's Summer Camp**

Young children gain an appreciation for the estuary and its inhabitants through games and hands-on activities.

Partnerships and Volunteers

The Waquoit Bay Reserve works closely with community organizations, in particular the Association for the Preservation of Cape Cod and the Citizens for the Protection of Waquoit Bay, on a number of policy issues related to resource management. For example, the Reserve:

- **Co-chairs a state-wide committee on advanced on-site systems.**

- **Is developing monitoring, financing and management protocol for on-site wastewater systems.**

- **Works with the Intermunicipal Committee on watershed-wide issues about nitrogen-loading.**

- **Provides data to policy makers for a No-Discharge Zone application for the Bay.**

... Perhaps our most valuable resources are the more than 100 volunteers who give so generously of their time.
